



# National Transportation Safety Board

## Marine Accident Brief

### Allision of Tanker *Wawasan Ruby* with CSX Bayside Coal Pier

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<b>Accident no.</b>	DCA-12-LM-025
<b>Vessel name</b>	<i>Wawasan Ruby</i>
<b>Accident type</b>	Allision
<b>Location</b>	CSX Bayside Coal Pier, Curtis Bay coal facility, Baltimore, Maryland 39° 13.30' N, 76° 34.57' W
<b>Date</b>	August 25, 2012
<b>Time</b>	1245 eastern daylight time (coordinated universal time –4 hours)
<b>Injuries</b>	One worker on the pier sustained moderate back and shoulder injuries
<b>Damage</b>	Pier: More than \$2 million; <i>Wawasan Ruby</i> : \$15,000
<b>Environmental damage</b>	None
<b>Weather</b>	Partly cloudy; good visibility; winds out of the east at 10 knots; air temperature 77°F
<b>Waterway information</b>	Baltimore Harbor, Curtis Bay, Curtis Bay Channel

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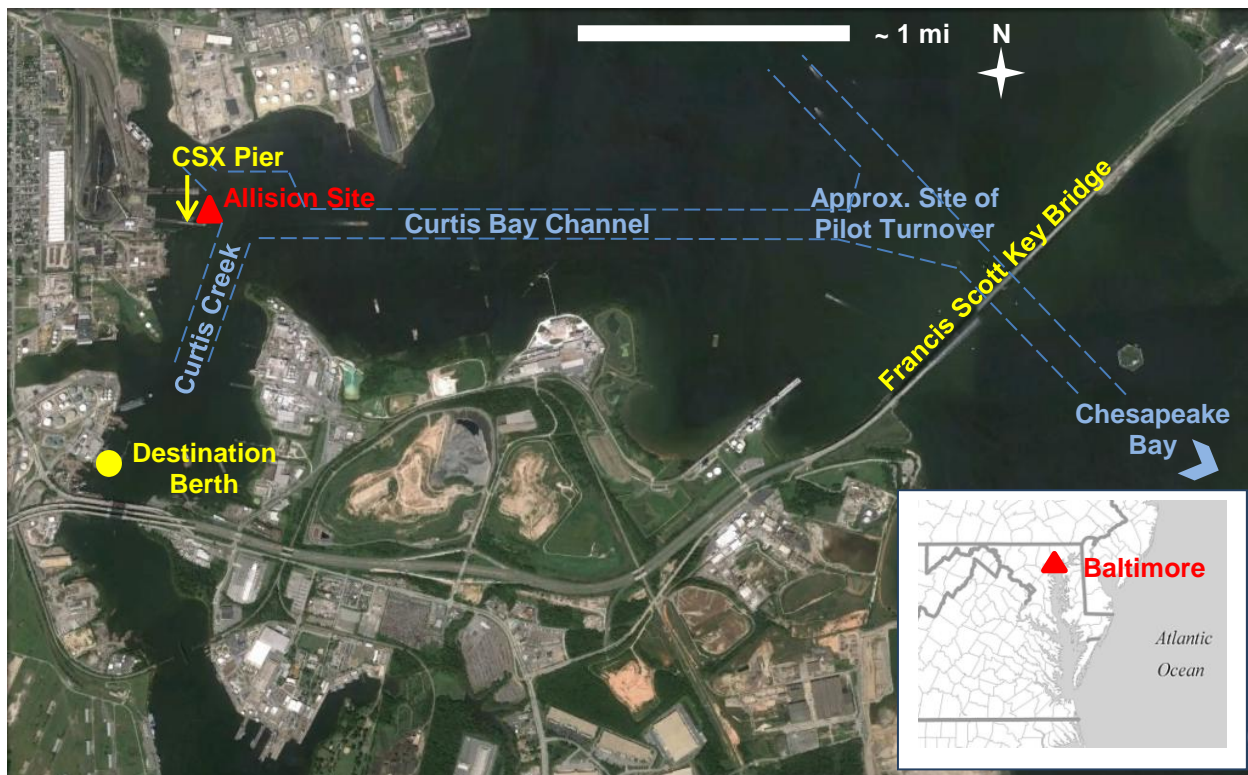
On August 25, 2012, about 1245 eastern daylight time, the 477-foot-long tanker *Wawasan Ruby*, with 24 persons on board, allided with the CSX Bayside Coal Pier (CSX Pier) in Baltimore Harbor, Maryland, while the tanker was making a turn toward its destination berth. One person on the pier was injured. The damage to the pier totaled more than \$2 million; the *Wawasan Ruby* sustained an estimated \$15,000 in damage.



The *Wawasan Ruby* under way. (Photo by Pascal Bredel, available at [www.vesseltracker.com](http://www.vesseltracker.com))

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The *Wawasan Ruby* had departed Port Everglades, Florida, 3 days earlier with a partial load of ethanol. On the morning of the accident, the ship made the nearly 12-hour-long transit up the Chesapeake Bay with a Maryland state pilot on board. The state pilot was to disembark just south of the Francis Scott Key Bridge, and a Baltimore docking pilot was to board and take the ship to its assigned destination berth. However, because of concerns about outbound traffic in the area, the two pilots agreed to delay the turnover until the *Wawasan Ruby* had passed the bridge. The docking pilot boarded the vessel about 1230 and joined the bridge team, which included the master, second and third mates, a cadet, and a helmsman. Shortly thereafter, the state pilot disembarked. Had the docking pilot boarded the ship in the usual area, he would have had an opportunity to experience turning the ship to port into the main channel. Instead, his first maneuver with the ship would now be making a sharp port turn (about 70 degrees) into Curtis Creek. The docking pilot had not been on board a vessel that proceeded into the lower reach of Curtis Creek in 9 months, and the last vessel he piloted through this turn was smaller than the *Wawasan Ruby*.



Aerial view of the accident area. (Background by Google Earth)

As the *Wawasan Ruby* approached the turn from the Curtis Bay Channel into Curtis Creek, the pilot ordered the engine to dead slow ahead and shortly thereafter gave a rudder order of starboard 10 degrees. The pilot later told investigators that he maneuvered the ship to the starboard side of the channel to give maximum room for the port turn into Curtis Creek. Also, before turning, he informed the master of his intention, and the master did not object. The ship was proceeding at 9.6 knots at the time. Less than a minute after the starboard 10-degree order, the pilot ordered midship, then port 20 degrees, and then quickly hard to port. The pilot told investigators that he gave these orders within a minute because he realized that the vessel's bow was not turning fast enough to port. He also initially ordered the assist tugboat that had been trailing the ship to come up and push on the vessel's port quarter to aid in the port turn attempt.

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However, when the pilot realized that the port turn was unsuccessful, he told the tugboat to stand down. He ordered the engine stopped, followed quickly by half astern and hard starboard rudder. The pilot later explained that once he decided to abandon the port turn, he gave the subsequent engine and rudder orders to try to direct the ship to the large opening between the CSX Pier and the Curtis Bay Coal Pier. At 1244, with the vessel's speed at 7.8 knots, the pilot ordered the engine full astern and to let go the starboard anchor.

As the *Wawasan Ruby* approached the CSX Pier, no one on board the ship sounded the whistle to warn of the impending allision. Forward momentum carried the vessel's bow, particularly the bulbous lower portion, into the pilings under the dock of the CSX Pier. As the ship continued forward, it broke the pilings along a roughly 200-foot-long stretch until finally coming to a stop. The allision also damaged the pier's horizontal timbers, the fendering system on the dock, and the securing bolts and concrete. The upper part of the *Wawasan Ruby* bow struck and damaged the crane (loader) on the pier. A worker on the crane sustained back and shoulder injuries as a result of the allision.



**The CSX Pier after the allision. (Photo by the US Coast Guard)**

Analysis of the VDR audio data reveals no orders were given from the bridge, by the pilot or captain, instructing the anchor detail to set the brake. After the accident it was found that two shots of chain (180 feet) had payed out before the brake was actually set. Due to the proximity of the pier and the vessel speed it is doubtful as to what effect the anchor would have had if the brake had been applied earlier.



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The damaged bulbous bow of the *Wawasan Ruby* after the allision. (Photo by the Coast Guard)

After the allision, the pilot asked the master to sound the forward tanks and visually check for damage of the affected areas. Shortly thereafter, the pilot ordered the anchor heaved and the vessel maneuvered to a local anchorage location to await the Coast Guard's arrival. The Coast Guard conducted drug and alcohol testing on the docking pilot and the ship's crewmembers; all results were negative. The Coast Guard also examined the vessel's machinery and navigation equipment and found no deficiencies. Finally, the Coast Guard inspected all aids to navigation in the area near the allision and all were found to be on station, properly marked, and/or lighted.

Following the accident, the Coast Guard obtained automatic identification system information from the National Vessel Movement Center, showing previous transits through the accident area by four other ships. These vessels were larger than the *Wawasan Ruby* but had proceeded through the turn into Curtis Creek at a much slower average speed (3–6 knots) than the *Wawasan Ruby* (9–10 knots). Further, the other four ships had used assist tugboats secured to the vessels to aid them through the turn—the *Wawasan Ruby* had not.

## Probable Cause

The National Transportation Safety Board determines that the probable cause of the allision of the tanker *Wawasan Ruby* with the CSX Bayside Coal Pier was the high rate of speed at which the pilot and the master were operating the vessel while attempting a 70-degree turn into Curtis Creek.

## Vessel Particulars

Vessel	<i>Wawasan Ruby</i>
Owner/operator	Trio Happiness SA/Goodwood Ship Management, Ltd.
Flag	Panama
Type	Chemical tanker
Year built	2010
IMO number	9477517
Construction	Steel, double hull
Length	477 ft (145 m)
Draft	23 ft (7 m)
Beam/width	78 ft (24 m)
Gross and/or ITC tonnage	11,568 gross tons
Engine power	8,241 hp (6,150 kW)
Persons on board	22 crew, 1 company representative, 1 pilot

**Adopted: April 15, 2014**

The NTSB has authority to investigate and establish the probable cause of any major marine casualty or any marine casualty involving both public and nonpublic vessels under 49 *United States Code* 1131. This report is based on factual information provided by the US Coast Guard from its informal investigation of the accident. The NTSB did not conduct its own on-scene investigation.